

## 2.0 SIGNIFICANT ENVIRONMENTAL EFFECTS

The following sections include analyses of the proposed Salvation Army Divisional Camp and Retreat described in Chapter 1 of this EIR. This chapter identifies significant direct and indirect impacts and mitigation measures associated with the construction, expansion, and operation of the camp. Analysis of cumulative impacts is discussed in Chapter 3, Cumulative Impacts. An analysis of direct and indirect impacts and mitigation for alternatives to the proposed project are described in Chapter 4, Alternatives.

### Final EIR Introduction

This section has been changed subsequent to the public review of the February 2005 Draft EIR and the April 2008 Revised Draft EIR as follows:

1. This section has been annotated to indicate where project features would be modified or eliminated with implementation of Reduced Project Alternative I (see Final EIR Introduction).
2. The Conclusions section was expanded to provide more explanation as to how impacts will be mitigated to a level less than significant.

## 2.1 Geology/Soils

### 2.1.1 Existing Conditions

The Salvation Army Divisional Camp site lies within the Foothill Province of north-central San Diego County. Topographically, the project site is characterized by steep slopes (over half the project site is greater than 25 percent slopes) in the western portions that grade into rolling hills and pasture-like areas which are occasionally bisected by intermittent and ephemeral drainages. The elevation at the site is between approximately 1,300 and 2,000 feet above sea level (Bowman, 1973). According to the Ramona Community Plan (1995), Iron Mountain is an important geological resource or landmark located west of the project area.

#### 2.1.1.1 *Geologic Formations*

Based on a review of the Geologic Map of California, San Diego - El Centro Sheet (USGS, 1962), geologic formations underlying the project site consist of Mesozoic granitic rocks (gr) and a small portion of Jura - Trias meta volcanic rocks. These formations are known to be stable.

#### 2.1.1.2 *Seismicity*

The property does not lie on a hazard zone or near any known recently active faults identified by the Alquist-Priolo Earthquake Fault Zoning Act, *Fault-Rupture Hazards Zones in California* (Special Publication 42, 1994). However, according to recent seismic hazard maps, the project site is located within 50 miles of segments of several known, or presumed, active faults or fault zones. These faults or fault zones are capable of producing a major seismic event and include: Newport-Inglewood-Rose Canyon Fault Zone, Elsinore Fault Zone, and the San Jacinto Fault Zone (Jennings, 1994). Although these faults have not had recognized Quaternary displacement (last 2 million years), this does not necessarily mean that these faults are completely inactive. However, the proposed site is not located within an Alquist-Priolo Special Studies Zone (Jennings, 1994; Hart, 1988).

Landslides and rockslides could be triggered by seismic activity, as well as other natural forces. Although the potential for landslides is generally greater on slopes of 25 percent or steeper, it is also dependent upon geologic conditions (i.e., structural rigidity, susceptibility to erosion, etc.). Surface ground failure could also be associated with subsurface slope failure adjacent to a wash, as the flow undercuts the adjacent bank. Because the soils on the site tend to be highly erosive and occur on slopes of 25 percent or greater, the site would be at a greater risk to this type of failure during seismic events. Unstable conditions are also increased by a lack of vegetation with supportive root structure. Wildfires, like those that ~~which~~ occurred recently within the project area ~~in 1995~~, destroy vegetative cover and increase erosion, which can be accompanied by landslides during periods of heavy rains.

### 2.1.1.3 Soils

The soil association dominant within the project site is Cieneba-Fallbrook Association, Very Rocky. According to the Soil Survey of San Diego County (Bowman, 1973), the soils on-site are identified as Fallbrook Sandy Loam (FaC), Fallbrook Rocky Sandy Loam (FeE), Vista Coarse Sandy Loam (VsC), Cieneba Rocky Coarse Sandy Loam (CME2), Cieneba Coarse Sandy Loam (CID2), Cieneba Very Rocky Coarse Sandy Loam (CmrG), and Arlington Coarse Sandy Loam (AvC). The primary soils on the site belong to the Cieneba Series. The Cieneba Series is characterized by very shallow to shallow coarse sandy loams which are excessively drained. The slopes of this series range from 5 to 75 percent, and are often characterized by rock outcrops.

A small area within the southwestern portion of the site has been identified as the Friant-Escondido Association, Eroded. The Friant-Escondido Association is represented by metasedimentary soils. Metasedimentary soils are important because they support regionally unique endemic habitats which are considered particularly sensitive by the resource agencies. The small portion of the site which has been identified with metasedimentary soils (about 5 acres that include a small portion of the final hairpin on the hiking trail to the cross) belongs to a Friant series found on 30 to 70 percent slopes (Bowman, 1973).

None of the soil types identified on the site by the Soil Conservation Service are considered hydric soils. This does not mean; however, that hydric soil conditions are completely absent from the site. Hydric soils are important because their presence is one of the three necessary criteria (in addition to hydrology and hydrophytic vegetation) which define the presence of jurisdictional wetlands.

The soils on the site also tend to be well to excessively drained, with severe erosion potentials. The drainage and erosion characteristics of these soils are not conducive to holding or ponding water for significant periods of time (Bowman, 1973). The creation of any recreational water feature would require either a constant replenishment of the water supply or the creation of an impervious layer to prevent the water from draining away.

## 2.1.2 Thresholds of Significance

Geologic conditions exist within the County of San Diego which can pose serious problems when land is developed. Unstable slopes, slide-prone geologic formations, faults, and liquefaction-prone soils occur in many parts of the County. In accordance with CEQA Appendix G and the Alquist-Priolo Earthquake Fault

Zoning Act significant Geology/Soils impacts would result from the proposed project if any of the following would occur:

- Significant increase in the exposure of people to hazards related to fault rupture (Alquist-Priolo Zone), seismic ground shaking, seismic ground failure (liquefaction), rockfall, or landslides.
- Significant increase in erosion on the project site.
- Unstable soil conditions (expansive soils) from excavation, grading, or fill.
- A potentially adverse effect to unique geological features.
- A significant loss of availability of an important mineral resource that would be of future value to the region.

### 2.1.3 Analysis of Project Effects and Determination as to Significance

**Impact 2.1.a** The proposed project is not located in a hazard zone identified by the Alquist Priolo Earthquake Fault Zoning Act (Special Publication 42, 1994), *Fault-Rupture Hazards Zones in California*. However, the project site is located within 50 miles of segments of several known, or presumed, active faults or fault zones. These faults or fault zones are capable of producing a major seismic event and could cause significant ground shaking within the project area. In addition, because the soils on the property tend to be highly erosive and occur on slopes of 25 percent or greater, the site would be at a greater risk to landslides and rockslides during seismic events. Impacts from seismic hazards on the project site could result in significant geologic impacts.

**Impact 2.1.b** All the soils within the project site, except for Vista Coarse Sandy Loam (VsC), have severe erosion potential. Additionally, the soils on-site occur on slopes of 25 percent or greater. The project could result in unprotected erodible soils and could alter existing drainage patterns. In addition, under the Applicant's Preferred Project the access road to the proposed Retreat Center would cross a "blue-line" drainage course and require manufactured slopes. Therefore, the anticipated increase in erosion from the proposed project could result in a significant impact. (Note: Under Reduced Project Alternative I, the access road to the Retreat Center would not cross a "blue-line" drainage course.)

The *Soil Survey, San Diego Area CA* by the U.S. Department of Agriculture has identified that no soils on the site have a high shrink-swell behavior. Therefore, on-site soil conditions are stable and do not have the potential for adverse impacts on future excavation, grading or fill activities. Impacts from unstable soils would not be significant.

Iron Mountain, located west of the project site, is considered an important geological resource or landmark based on the *Ramona Community Plan (1995)*. This important geological resource is completely

out of all proposed development activities. Therefore, impacts to this important geological resource would not be significant.

Based on the *Update of Mineral Land Classification: Aggregate Materials in the Western San Diego Production-Consumption Region* (Update of Mineral Land Classification, 1996), the project site is not located within a significant mineral resource area. Additionally, no known past or present mining activities were identified on the project site. The proposed project would not result in a loss of availability of a known significant mineral resource that would be of value to the region. Therefore, impacts to mineral resources would not be significant.

## 2.1.4 Mitigation Measures

**MM 2.1.a** The applicant shall prepare site-specific geotechnical studies, including a comprehensive soil evaluation, prior to approval of the grading plans and issuance of building permits for each development application under the proposed project. The geotechnical studies shall include specific mitigation requirements as appropriate to each development proposal that reduce seismically-related impacts to below a level of significance, and may include the following measures.

- In areas of proposed development, landslides, rockslides, improperly compacted fill soil, and highly erosive soils will require special attention. Buttresses, stabilizing fill material, or other methods of stabilization shall be required in developed areas where landslides and rockslides are encountered. In areas where landslides and rockslide exist off-site, and where stabilization is not feasible, setbacks shall be required.
- For the purpose of preliminary design, cut and fill slopes shall be designed no steeper than 2:1. The shear strengths of existing soil and rock will generally limit safe allowable slope height. The potential impact of geologic conditions on slope stability shall be evaluated in areas of proposed cut slopes greater than 15 feet in height.
- Proper surface drainage shall be provided and maintained, as it is essential to soil stability and to reduce the potential for erosion. Drainage swales shall be installed on graded pads to conduct storm or irrigation runoff to controlled drainage facilities, and away from buildings and the tops of slopes. These measures shall be taken during construction to ensure that storm and irrigation water does not flow over the tops of cut or fill slopes.

The Salvation Army will implement each measure recommended in the Geotechnical Studies, as required and approved by the County, to ensure seismically-related impacts are reduced to below a level of significance.

**MM 2.1.b** • Prior to approval of a grading permit, the applicant shall prepare a grading/construction management plan. This plan shall include the recommendations outlined in a report prepared by a geotechnical engineer regarding all cut and fill slopes and foundation work.

The grading/construction management plan shall also include the recommendations outlined in a report prepared by a landscape architect regarding the revegetation of graded slopes to ensure proper revegetation. The landscape architect shall pay particular attention to areas that have been stripped of native vegetation or areas of fill material and recommend appropriate erosion control measures. These areas may require desilting basins, improved surface drainage or planting of ground covers early in the improvement process, to reduce the potential for erosion.

Short-term measures for controlling erosion shall be incorporated into grading plans on-site, as outlined in the Geotechnical studies approved by the County's Department of Public Works. These measures may include sandbag placement and temporary detention basins.

The Salvation Army will implement each measure included in the grading/construction management plan, as approved and required by the County, to reduce impacts associated with soil erosion to below a level of significance.

### 2.1.5 Conclusions

Significant geologic impacts that could affect the proposed project are potential seismic hazards associated with segments of several known, or presumed, active faults or fault zones located within 50 miles of the proposed project site. Additionally, most of the soils within the project site have a severe erosion potential and occur on slopes of 25 percent or greater. However, geologic impacts from seismic hazards and severe soil erosion potential would be mitigated to below a level of significance with proper engineering design that would be identified in the geotechnical studies prepared, prior to the issuance of any grading or building permits for each component of the project. The site-specific geotechnical studies and grading/construction management plan would include a comprehensive soil evaluation, which would address such issues as landslides, rockslides, improperly compacted fill soil, highly erosive soils, drainage, and cut and fill slopes. The geotechnical studies and grading construction/management plan will include requirements specific to the project site to ensure that project site soils are suitable for development.

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